IN THE SPECIFICATION

Delete the paragraph that begins on Page 1, Line 6, and replace with the following replacement paragraph:

1. Field of the Invention. The present invention relates to integrated-circuit (IC) memory chips and, more particularly, to an enhanced integrated circuit memory chips that incorporate additional functions in a standard memory package.

Delete the paragraph that begins on Page 1, Line 29, and replace with the following replacement paragraph:

An important aspect of memory products is that a successful memory product tends to become standardized in an industry. Industry standards are preferred by [OEM] original equipment manufacture (OEM) manufacturers that are buyers of the standard memories and that prefer to have multiple suppliers supplying them with the same part so that the OEM manufacturers can have multiple sources for competitive pricing, scheduling, and other considerations. Standardization is also endorsed by memory manufacturers, especially for the later memory manufacturers that want to get into customer sockets for which there are already incumbent suppliers. To compete with the incumbent suppliers, the later memory manufacturers have to maintain the same basic fit, form, and function of a standard integrated-circuit memory package[.], or at least minimize the differences between their product and the standard. Fit of a memory package is the size of a memory integrated-circuit package in all three dimensions and the layout configuration of the memory integrated-circuit package. Form is the type of package and the package material, such as plastic or ceramic. Purchasing a component that conforms to an industry standard minimizes the work that a customer OEM manufacturer needs to do to accommodate using an integrated circuit from a later memory manufacturer. A memory integrated circuit of a later memory manufacturer typically performs the same memory functions as the memory integrated

circuits of an incumbent supplier. The later memory integrated circuits often have improvements in speed, power consumption, and performance to make them more attractive than those of the incumbent suppliers.

Delete the paragraph that begins on page 3, line 27, and replace with the following replacement paragraph:

FIG. 1 is a chart that illustrates the evolution of various generations of mobile communication systems. The wireless-content business has evolved from primarily voice communication in the first 1G and the second 2G generations to digital in the 2.5 G generation. The third 3G digital multimedia generation provides multimedia wireless devices such as cell phones and wireless personal digital assistants (PDA's) such as Palms, and palmtop and laptop computers . These 3G multimedia wireless devices provide a high-resolution, color video display with quality comparable to a [TV] television (TV) set or to a [PC] personal computer (PC) monitor. To minimize the amount of data transfer required for these multimedia wireless devices, data compression and decompression (CODEC) techniques, such as Moving Picture Expert Group–4 (MPEG-4), are used extensively for streaming audio-visual information to provide applications such as content-based access for digital storage media, digital audiovisual communication, and other applications. Companies have developed CODEC [DSP}digital signal processor (DSP) chips that enable transmission and reception of high-quality audio and video signals over the Internet and through next-generation mobile handsets. These CODEC DSP chips use a quarter-common-intermediate format (QCIF) standard screen size of 176 by 144 pixels for video reproduction in videophones at a typical rate of 10-15 frames per second.

Delete the paragraph that begins on page 4, line 28, replace with the following replacement paragraph:

Furthermore, in order to access data stored in a handset integrated-circuit memory for data encoding/decoding, data compression/decompression, and display

purposes, the baseband chip has to communicate with a memory chip every clock cycle on the printed-circuit data busses between the separate baseband integrated-circuit package and the memory integrated-circuit package. To effectively drive the printed-circuit board (PCB) data busses between the separate baseband integrated-circuit package and the separate memory integrated-circuit package at a high enough data rate, integrated-circuit output drivers on each integrated circuit have to provide sufficient current drive to the PCB data busses. This further increases power consumption and drains the battery.

Delete the paragraph that begins on page 5, line 8, and replace with the following replacement paragraph:

FIG.2 shows a simplified system architecture for a prior-art multimedia wireless system 10 that is used in a typical wireless communication device, such as a cell phone. The system typically includes several discrete integrated-circuit packages that communicate with each other through a bus on a printed-circuit board, represented as a PCB bus 12. A[n] [RF} radio frequency (RF) integrated circuit 14 transmits and receives RF signals through an antenna 16. Data signals are sent to and from the RF integrated circuit 14 on the PCB bus 12. A standard memory integrated-circuit package 18, such as a SRAM or a Flash/SRAM combination memory, that has its terminals connected to the system bus 12. A [LCD-display] liquid crystal display (LCD) controller integrated circuit 20 has its terminals connected to the system bus 12 and provides signals for displaying text on a suitable LCD-display device 21, such as a LCD text display screen. A baseband (BB) integrated circuit 22 is provided with a microcontroller core, such as provided by ARM or MIPs.

Delete the paragraph that begins on page 7, line 1, and replace with the following replacement paragraph:

Consequently, a need exists for a technique that adds additional memory-intensive functions into portable electronic devices, such as a wireless appliance or a

cell phone, but that does not increase package count and power consumption[.] while keeping substantially the same fit and form as a standard memory integrated circuit.

Delete the paragraph that begins on page 9, line 20, and replace with the following replacement paragraph:

The special-function section for a smart memory includes a number of special functions. One group of special function includes a function selected from a group consisting of: a high-fidelity audio system, a multi-media codec, a wireless short-distance communication system,[,] streaming video system, a wireless [LAN] local area network (LAN), a Global Positioning System, and a video display. A number of memory array types are used including a memory array section that is selected from a group consisting of: a SRAM, a pseudo-SRAM, a DRAM, an EEPROM, an EPROM, a FLASH, a DRAM/FLASH combination, a ferroelectric RAM, and a magneto-RAM. In addition, a number of smart memory package types are used such as, for example, a ball grid array BGA package.

Delete the paragraph that begins on page 11, line 20, and replace with the following replacement paragraph:

The method provides for operating the special function section on an internal voltage supply level that is lower than an external voltage supply level for the smart-memory integrated-circuit package. The special-function section is selected from a group consisting of: a high-fidelity audio system, a multi-media codec, a wireless short-distance communication system[,], streaming video system, a wireless LAN, a Global Positioning System, and a video display. The memory array section is selected from a group consisting of: a SRAM, a pseudo-SRAM, a DRAM, an EEPROM, an EPROM, a FLASH, a DRAM/FLASH combination, a ferroelectric RAM, and a magneto-RAM.

Delete the paragraph that begins on page 18, line 14, and replace with the following replacement paragraph:

For many applications, the ability to do the additional memory-intensive functions, such as a multi-media function in a cell phone, using the same package profile as a conventional memory pin package is a major advantage in terms of portability. For example, conventional memory in a [GPRS] general packet radio services (GPRS) phone can be replaced with a MMRAM package according to the invention that has the same density and pin-layout as used by a typical memory package in a cell phone. For a Flash-SRAM combo chip in a BGA (Ball Grid Array) package, the SMART MEMORY integrated-circuit package uses the same package and the same ball pitch and layout as a conventional memory. Any extra pin, such as a clock or interrupt type are added within the same ball /pin layout diagram. Doing a software modification on the existing baseband chip can significantly enhance the function of the cell phone, giving it a multimedia capability and making it attractive to both service providers and end customers. A product according to the invention services businesses in the instant video clips domain and enables video communication through wireless to other wireless devices such as [PDA} personal digital assistant (PDA), laptops, smart video cameras, cell-phones and other devices. The video clips and/or internet video download features will be very popular as evidenced by the immense success of the SMS (short message service) offered in Europe and the IMODE offered by NTT DoCoMo. A MMRAM or SMART MEMORY integrated-circuit package according to the present invention enables a video-clip version of the SMS. Furthermore, because video clips are done with data packets and because service providers can support this type of service on a per message (vs. fixed time) basis, there will be a strong support by the service providers of such multi-media service.